

Trane Commercial Systems

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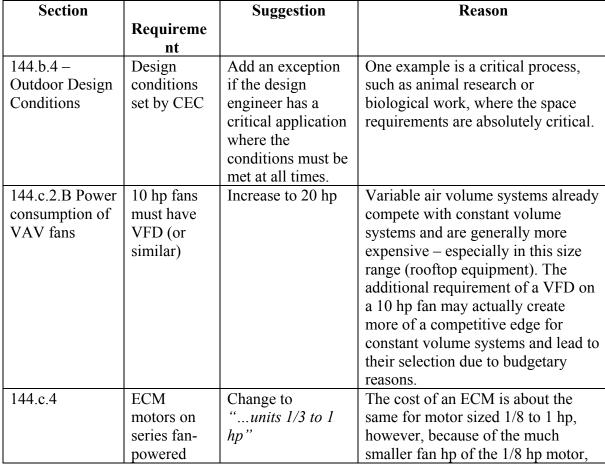
California Energy Commission Mr. Bill Pennington BPenning@energy.state.ca.us.

Re: Development of Title 24 2005 Standard

Dear Mr. Pennington:

Only in February of 2003 has a draft of the possible changes to Title 24 for 2005 come to my attention. While many of the new requirements make sense there are some that should

change. I list those in the table below.





Section		Suggestion	Reason
	Requireme		
	nt		4-
	boxes		the payback is 1/8 <sup>th</sup> of that for a 1 hp motor.  The payback for 1/3 hp is ok, also General Electric (the major provider of ECM's) only makes them down to 1/3 hp.
Not in standard	Fan Pressure optimization for DDC/VAV systems	Add	Set point reset (fan pressure optimization) is required by ASHRAE 90.1-1999 (and 2001) for DDC VAV systems. The cost is minimal and the savings are significant if DDC is already installed
144.h.3 – Tower Flow Turndown	Requiremen t for all cells to be run at part load condition	Put a limit on the number of cells that must be designed in this manner.	Very few cooling towers allow flow rates less than 30-40% even when designed for variable flow. If we have four cells in an application and dedicated condenser water pumps, each cell will only have 25% flow. While part "B" seems to indicate that the cell could be designed for 33% minimum flow, the actual requirement states that "all cells can be run in parallel"
144.i – Limitation of air-cooled chillers	Systems over 300 tons can have maximum 100 tons air- cooled chillers	Delete	<ul> <li>This requirement seems to restrict trade</li> <li>Restricting to a maximum 100-ton air-cooled chiller essentially eliminates any air-cooled chillers above 100 tons from being sold. Without manufacturing plants being able to produce and sell larger chillers, the cost of air-cooled chillers 100 tons and smaller will rise and become much less economical.</li> <li>There are many applications where air-cooled chillers make economic sense for building owners. For example, schools that do not have maintenance staff to maintain cooling towers.</li> </ul>

Section	Requireme nt	Suggestion	Reason
			<ul> <li>Air cooled chillers with helical-rotary (screw) compressors receive extensive relief as ambient temperature (dry bulb) drops. Dry bulb drops much more quickly than wet bulb – especially in your climates. So systems that operate nights, nonsummer hours (September, October, etc.) etc. get extensive energy reduction from that drop in temperature.</li> <li>Economics and energy should be used by the design engineer on the specific application, not mandated by code.</li> </ul>
144.j.2 – Chiller isolation		Adjust the laste sentence to read: "Chillers that are piped in series shall be considered as one chiller."	<ul> <li>There are many reasons chillers may be piped in series:</li> <li>Increased temperature differential</li> <li>To take advantage of an alternate fuel type (or heat recovered from e.g. a turbine)</li> <li>To enhance the chiller's capability to be loaded to recover heat from its condenser.</li> </ul>



Regards,

Mick Schwedler, PE Senior Principle Applications Engineer So having the *phrase "for the purpose of increased temperature differential"* is too limiting.